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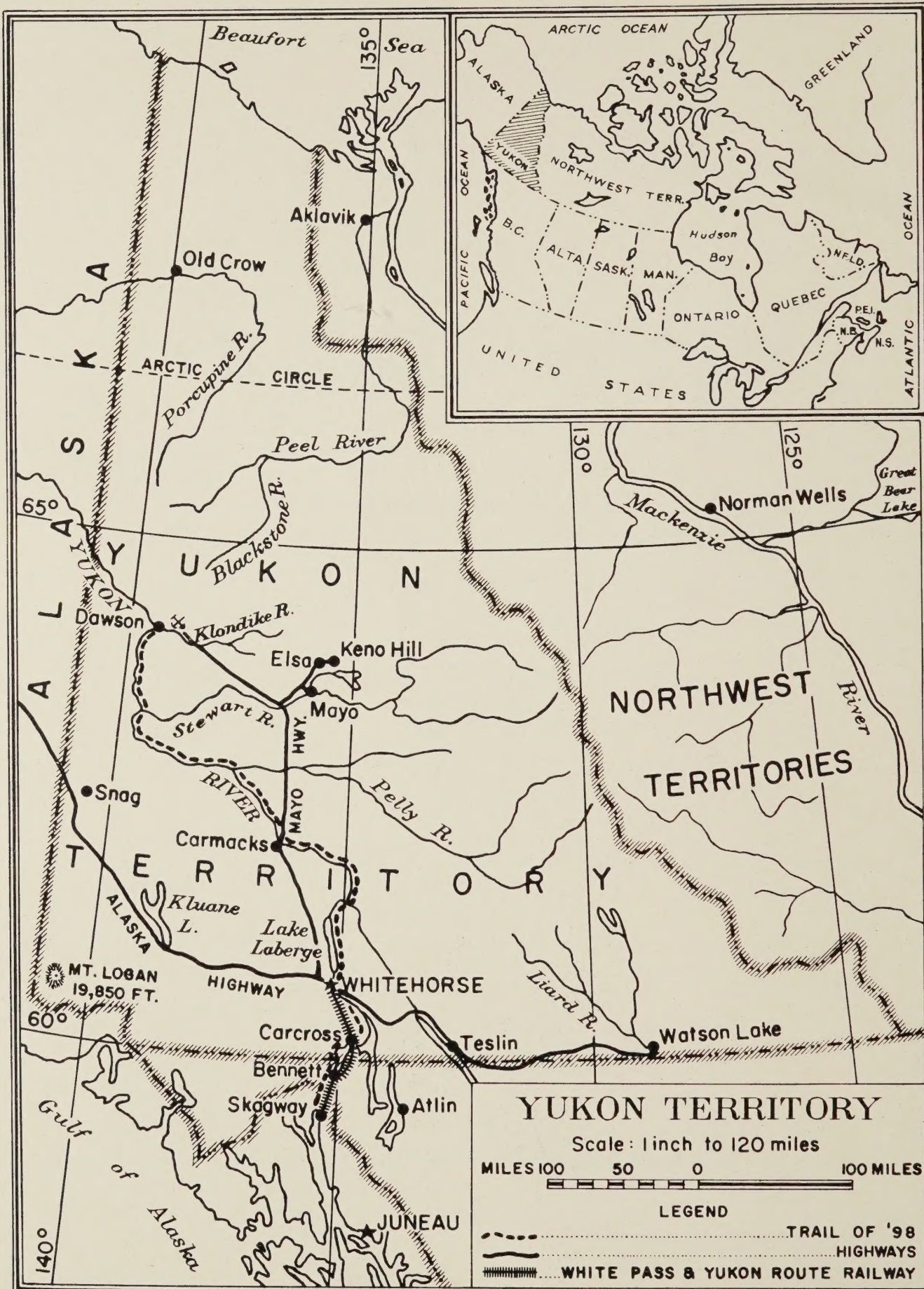
YUKON TERRITORY

SIXTH COMMONWEALTH
MINING & METALLURGICAL CONGRESS
September, 1957

by A. E. Pike

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Y U K O N

CANADA'S NORTHWEST LAND

of

Y our Visit,

U ndeveloped,

K londike Gold,

O il and Gas,

N orthern Lights,

Y our Hosts,

U nexplored,

K eno Silver,

O pportunity,

N ew Horizons.



Northern Lights.

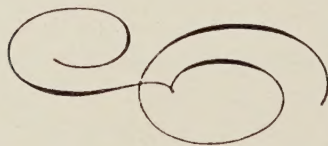
THE SPELL OF THE YUKON

*It's the great, big, broad land 'way up yonder,
It's the forest where silence has lease;
It's the beauty that thrills me with wonder,
It's the stillness that fills me with peace.*

FROM SONGS OF A SOURDOUGH

ROBERT W. SERVICE


(By permission of the publishers.)



To Our Visitors . . .

Greetings!

THE YUKON on the far northwest of Canada, and the most northerly point of your tour, is a young land with an exciting past and inspiring future. It is a vast land, cold cruel, empty and unexplored. It is the "Land of the Midnight Sun" where in summer, in almost total daylight, the setting and rising sun sweeps the northern horizon in a blaze of colour, to blend with the myriad of flowers which grow wild everywhere in great profusion. It is the land of Northern Lights, of short winter days and long, cold nights when the mercury drops out of sight and all is deathly still. It is a land of rugged mountains, miles high, huge glaciers, large valleys, great rivers, beautiful lakes and pastoral plateaux, grading to the north and the Arctic Ocean into a foreboding and desolate country of tundra and muskeg. It is the land of Klondike Gold where took place over the "Trail of '98" the most frenzied and spectacular gold rush the world has ever seen. It is a land of tremendous lode mining potential, and even in its infancy boasts the largest silver producer in Canada, with undeveloped deposits of asbestos, nickel, copper, gold, silver, lead and zinc awaiting exploitation. It is a land of oil potential and probable tremendous hydro electric development. It is above all a very real land for an industrious, courageous and friendly people. It is Canada's Land of Destiny, and our home. We bid you Welcome!



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YUKON

THE Yukon Territory, as now known, comprises the extreme northwestern part of the mainland of Canada. It was, prior to 1895, a part of the unorganized Northwest Territories. In that year it was created a district of the Northwest Territories, and in 1898 was made a separate territory by Act of Parliament.

The early history of the Yukon Territory is largely the record of exploration and exploitation of explorers, trappers, fur traders, and placer miners in search of gold.

Much of the exploration was done by the Hudson's Bay Company in the course of extending their trade. From Fort Simpson on the Mackenzie River they worked up the Liard River and across the height of land and down the Pelly River. They also penetrated the territory from Fort McPherson by way of the Bell and Porcupine rivers, and used this route for transfer of fur and supplies. Trading posts were established at strategic locations, often beset by many trials and tribulations over and above the difficulties of isolation and climate. Fort Yukon, three miles above the confluence of the Yukon and the Porcupine, was found by survey to be in United States territory and was moved and later abandoned. Fort Selkirk, below the junction of the Yukon and Pelly rivers, was attacked and sacked in 1852 by the Pacific Coast Chilkat Indians because of its interference in their fur trading.

Over much of the same period, a similar development of the Territory of Alaska coincided with that of the Yukon. Prior to 1867 it was Russian territory and was largely exploited for fur. Following the sale of Alaska to the United States in 1867 for \$7,200,000, traders and placer miners worked eastward up the Yukon River to Canadian soil. There was considerable difficulty over the

demarcation of the boundary which was finally settled by the Alaska Boundary Tribunal of 1903.

Prospectors in search of gold played a major role in the development and history of the Yukon. They worked north from the declining Cariboo and Omineca placer diggings in British Columbia establishing the Cassiar field in 1873. In the following two years, hundreds of miners prospected the Liard Basin and moved on toward the Yukon. Others arrived at Fort Yukon via the Rat, Bell and Porcupine rivers. In 1878 a party of prospectors crossed the Chilcoot Pass and followed down the Lewes or upper Yukon River to Marsh Lake. By 1885, a number of miners were working on the Stewart River, and in the following year, very good pay was taken by "rockers" from Cassiar Bar on the Lewes River and Steamboat Bar on the Stewart River. Coarse gold was discovered in 1886 on the Forty-mile River and in 1892 on the Sixty-mile River.

In 1895 when the Yukon Territory was created a district of the Northwest Territories, a detachment of Royal Northwest Mounted Police was sent to the district to maintain law and order and to represent the various Dominion Government departments. Headquarters were established at Forty-mile. Their timely arrival and devotion to duty, were in large measure, responsible for the orderly development of the territory at a time when the country was being combed in search for gold.

This, then, was the Yukon of midsummer of 1896. A land of trappers, traders, prospectors, and miners who worked the rivers, creeks, and bars by hand methods in search of the precious yellow metal. It was an isolated remote part of the world with primitive transportation, and was truly a frontier land.

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In the spring of 1896, after two years of prospecting, Robert Henderson located an encouraging showing on Goldbottom Creek in the area between the Klondike and Yukon rivers. Needing supplies, he started for Ogilvie, opposite the mouth of Sixty-mile River, when he met George Carmack and two Indians, "Skookum" Jim and "Tagish" Charlie, fishing for salmon. Telling them of his claim, he invited them to stake alongside him on Goldbottom Creek as it looked encouraging.

At the same time, according to the story, he suggested that Carmack prospect the gravels in Bonanza Creek and advise him of the results. Pushing on down river, Henderson little realized his part in the history-making event that was to follow as Carmack and his two Indian companions crossed the low divide and on August 17, 1896, known as Discovery Day, discovered fabulously rich gold on Bonanza Creek. They staked their claims and rushed to Forty-mile to record them, neglecting to inform Henderson who, on his return, found the entire length of Bonanza staked in the rush which followed the discovery. Henderson, however, is considered by many to be the real discoverer of the Klondike.

GOLD

GOLD

GOLD

The magic word "GOLD" spread quickly throughout the Territory and Alaska, and as the news reached the outside world, it started the most rugged and fantastic "Gold Rush" in history. Gold dust and nuggets for the taking, fortunes in a few days, and unlimited diggings, were the stories that enticed thousands of adventuresome souls to head north to the Klondike.

Here was the land where fortunes were being made. Here men, who in one of the worst business depressions in history lost everything in the panic of 1893, now had the opportunity to recoup. Here indeed was the promised land.

• • •

Thousands of gold seekers answered the lure of Klondike Gold and headed north from the "Outside". The rush became a stampede and the cry of "Klondike or Bust" echoed along the Pacific Coast and around the world.

Most of those who joined the rush knew nothing of mining and had no experience in travelling in rough country. They had never experienced such bitter cold nor the heavy physical difficulties, and many were poorly equipped. They were engulfed by the stampede and driven on by Klondike gold.

Many stories have been written of their heroic deeds and incredible determination under almost impossible conditions. Many stories, too, have been recorded of their foolhardiness and general ineptitude which led to terrible conditions of privation, failure, and in many cases, disaster. Thousands never reached the Klondike as many turned back or took other work to exist. Many were lost on the trip north to Skagway and Dyea, on the Chilcoot and White Passes, and on the Yukon River. Dreams of success for many were shattered by cold, hard realism.

By the summer of 1897, fortune-seekers were pouring in by thousands over several routes. They came in droves from the Pacific Coast to Skagway and Dyea at the head of the Lynn Canal and then over the forbidding Chilcoot and White passes to Lake Lindeman, headwaters of the Lewes River, then on down the Yukon to the Klondike. Others came up the Yukon from St.

Michael's, Alaska. Many more followed along the Stikine River to Teslin Lake, then down the Yukon, while still others came over the Dalton Trail from Chilkat Inlet, and via the Mackenzie and Porcupine rivers.

The route up the British Columbia coast to Skagway and Dyea was the most travelled as Pacific Coast shipping brought in thousands from Seattle, Tacoma, San Francisco, Portland, Vancouver, Victoria and other coast ports. There just were not enough ships, and for several years after the discovery of gold on the Klondike, crowds waited on docks for a chance to go north. At the height of the stampede, with passage sold out, all types of marine shipping were chartered, including scows, tugs, cattle boats, and all sorts of miscellaneous small craft. Accommodation aboard varied greatly from de luxe cabins in some ships to deck space on others, hemmed in by cattle, feed and other deck cargo.

The uncharted seas off the rugged British Columbia and Alaska coast, the inexperience of pilots, the racing tides, and the foul winter weather of fog, rain, snow, ice and wind, took a terrible toll of shipping. The loss of life, property, and ships was tremendous as the coastline became a graveyard of ships. Hundreds of craft of all sizes were lost in the mad rush north to the Yukon.

The first arrivals at Dyea found nothing but a mud flat swept by treacherous tides against a backdrop of rugged forbidding mountains. Unloading from ships onto the beach was a scene of frenzied effort and confusion. Supplies and equipment of every description were scattered along the shore and many an outfit and piles of provisions were swamped by the incoming tide.

Dyea quickly grew to a bustling town as buildings and docks were erected, and served as the jumping-off point for the thousands who started over the Chilkoot Pass.

Some nine miles from the coast the Dyea Trail entered a rocky box canyon where sprung up Canyon City, a tent camp of several thousand souls. Beyond this stopping place the trail followed up a narrow ravine which, with the spring and fall rains and the continuous churning of pack trains and thousands of tramping gold seekers, became a veritable quagmire. It took a heavy toll of the over-worked, hard-driven pack animals. Beyond the ravine, the land opened out into a flat at the base of the Chilkoot Pass and here sprang up Sheep Camp, the last resting place before the climb.

The rugged ascent to the summit at 3,600 feet above sea level was a formidable climb and turned back many who were weak, discouraged or unfit. In the summer, the pass was an almost impassable rubble of broken rock, and in winter a mass of ice and snow beset by biting winds, bitter cold and treacherous snow slides. Over sixty lives were lost in one slide, in 1898, as the stampede went on. It was a continuous tight line of men with heavy packs climbing ice steps in a hectic rush to the summit and the gold beyond. To rest meant to drop out of the line and possibly freeze. The back pack had to be made unless one could pay the fabulous prices of a professional packer or the



Chilkoot Pass.

steam driven tramline which was erected to the summit. It was no place for weaklings; it was every man for himself and the devil take the hindmost. It was self-preservation only in the mad rush for gold.

Once over the summit on the Canadian side, the rush pressed on down to Crater Lake where sleighs, some equipped with sails, were pulled across the frozen surface, then on to Lake Lindeman and Lake Bennett at the head of navigation of the Yukon River system.

At Skagway, as at Dyea, thousands landed on the mud flats in the summer of 1897. The city was quickly laid out in orderly fashion, docks were built, and business properties established. It was a boom town of hotels, stores, saloons, and eating houses catering to thousands of transients headed north to the gold fields. Its citizens from all walks of life included many men of high repute and others of undesirable character. In this latter group was the notorious "Soapy" Smith who came to Skagway as the leader of a gang of thugs, crooked gamblers, gunmen and disreputable women. He was above the law and carried on his rule of crime unmolested, until finally shot in a gun battle

with a member of a local vigilante group. The lawless, leaderless gang was quickly broken up and law and order restored.

From Skagway the gold seekers struck out over the White Pass to Log Cabin and Lake Bennett where they joined the trek from Dyea for the river and lake trip to Dawson and the Klondike. The White Pass Trail was very rough in summer and though much better in winter, was covered with ice and snow and was subject to almost continuous blizzards and bitter cold. Here, too, the toll of pack animals was appalling due to rough terrain, stampede cruelty, and starvation. Many men, too, met their Waterloo and were forced back by the rugged terrain and lack of stamina and adequate equipment.

• • •

*"This is the Law of the Yukon, that only the Strong shall thrive;
That surely the Weak shall perish, and only the Fit survive.
Dissolute, damned and despairful, crippled and palsied and slain,
This is the Will of the Yukon—Lo, how she makes it plain."*

ROBERT W. SERVICE

(By permission of the publishers.)

Beyond the summit of the Chilkoot and White passes on the Canadian side of the boundary line between Canada and Alaska, North West Mounted Police detachments were established as the rush of gold seekers got under way. Here the small Force checked the hordes of stampeder and firmly established law and order, in sharp contrast to the disorder and lack of adequate policing at Dyea and Skagway. All were registered, their equipment and food supplies checked, and duties collected where applicable. Many were refused entry as their food supplies and equipment were inadequate, and many undesirables were turned back. The North West Mounted Police registry showed the arrival, destination, and departure of every man, and as he proceeded he checked in at regular police posts. The "Mounties", therefore, could "get their man" anywhere in the Territory in a very short time. The fair, firm and efficient administration of the law by the North West Mounted Police was outstanding, and established a reputation unique in police work throughout the world.

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At Lake Lindeman and Lake Bennett the gold seekers faced the necessity of a change from overland to water transport. Tent camps of several thousand people sprang up and it was a hive of boat building activity. Boats of all descriptions, numbering in the thousands, were built, most of them whipsawed lumber from the local forests. It was a motley fleet indeed, that cast off on the 500-mile trip by lakes and rivers to Dawson and the Klondike.

The first part of the journey down Lake Bennett to Carcross (Caribou Crossing) and on to Marsh Lake was easy compared to the river run to follow. Many boats, however, were lost in storms and from being caught and crushed



Mils Canyon.

in the ice. Below Marsh Lake they entered the swift flowing Yukon River which narrowed and speeded up as it approached Mils Canyon. This dreaded canyon, 100 feet wide, had sheer rock walls and the river poured through at such a rate that the water piled up in the centre several feet above the sides. To ride the "hogsback" took experience and daring, but was much safer than at the sides where whirlpools and backwash smashed boats against the rock walls. Hundreds of boats were lost each week during the early rush by "green-horn" pilots.

Below Mils Canyon were the dangerous Whitehorse Rapids, a stretch of "white" water and whirlpools dotted with protruding and submerged rocks. Here, too, was a grim toll of boats, equipment and lives.

A horse-drawn tramway pulled on wooden rails was built to by-pass Mils Canyon and the Whitehorse Rapids. Those who could pay the price by-passed the canyon and rapids to push on downstream. Many were forced by the Mounted Police to use the tramway rather than risk life and limb in the dangerous river run without an experienced pilot.

Below the rapids where the river widened and the current slowed, there

grew up on the east bank the old town of Whitehorse. Here the gold seekers overhauled their boats and outfits for the more peaceful voyage downstream. The trials and tribulations of the journey thus far were now but a memory. It was the start of the last leg in the hectic rush to the Klondike.

Birth of a Railroad

Coincident with the Stampede to the Klondike came the building of the White Pass and Yukon Railway. This bold undertaking of construction of a railroad from Skagway to Whitehorse, a distance of 110 miles, was commenced in 1898 and was completed in two years at a cost of some ten million dollars. Its completion was indeed an engineering milestone and a fitting tribute to the perseverance, skill and ability of the builders.

It was a narrow gauge railroad and climbed from sea level at Skagway to White Pass at an elevation of 2,885 feet in just over 20 miles. The average grade from Skagway to the summit of White Pass was 2.6 percent with a maximum of 3.9 percent. Curvature maximum was 16 degrees. It wound through rugged mountains, perched precariously on narrow ledges blasted out of rock



Steel bridge near White Pass.



Tunnel Mountain.

faces, through tunnels, over deep canyons on dizzy bridges, and along the edges of sheer bluffs. The difficulties of rugged terrain were indeed formidable, and were greatly increased by the continuous battle against the weather of rain, snow, blizzards and bitter cold.

During the long, hard winter of 1898-99 some two thousand workmen were scattered along the right-of-way. Many of the workmen were gold seekers who, having run out of money in their mad dash to the Klondike, had to work on the railroad to exist. Many worked for a short time only, then drew their pay and again joined the stampede which continued past the construction crews in a steady stream. As each section of the railroad was completed, it was put into operation and speeded up the movement of men, supplies, and equipment. It was in large measure responsible for the rapid opening up and development of the territory, and was truly a remarkable achievement.

With the completion of the White Pass and Yukon Railway to the head of river navigation, the present city of Whitehorse was established on the west bank of the river. It marked the head of some 2,000 miles of clear navigation on the Yukon River to its outlet in Norton Sound of the Bering Sea.

Today, Whitehorse is a modern city of some 6,000 souls and is the largest centre in the Yukon Territory. It is the seat of the Territorial Government, which was moved from Dawson in 1953, and is the headquarters of the Royal Canadian Mounted Police for the Yukon. It is a base of Army and Air Force establishments.

It has a first-class airport on a high plateau west of the city, equipped with radio range and meteorological stations. This was a key landing field during the war years when it was enlarged to accommodate all classes of aircraft. It is served by air lines from Vancouver, Seattle, Edmonton and Fairbanks.

It is a bustling city as a railway terminal, a busy airport, the main centre on the Alaska Highway in Canada, and a distributing point for most of the Yukon. It boasts modern hotels, banks, stores, churches, hospitals, public and high schools, and offers many famous tourist attractions.

It is a city with an historically rich past and an assured future.

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When the railway was completed, the handling of freight and passengers was a scene of utter confusion. Hundreds of water craft of all descriptions competed for business like a group of unmanageable cab drivers. Passengers were fought over, through shipments split up, goods stolen, and Customs papers lost. As many of the boat owners were not responsible financially, there was little that could be done regarding claims.

The White Pass and Yukon Route, therefore, in order to protect their business, had to organize their own river service. Boats were built in Whitehorse during the winter of 1900 and service down river commenced in the spring of 1901.

The boats carried 100 first class passengers and about 300 tons of freight on a draught of about four feet, and had a mean draught without cargo of only eighteen inches. They were driven by a huge paddle-wheel in the stern, steamed at about 15 miles per hour and were able to back suddenly by reversing the paddle-wheel. This feature was necessary, as was the necessity of instant action from the engine room to the bell from the pilot house, so that the boat could be maneuvered around sharp turns, rocks and sand bars. The boats often pushed barges which only increased the difficulties of navigation. At many stopping points, they took on staggering amounts of wood, but in later years the boilers were converted to oil. The record of navigation in fast water, narrow river sections, and past rocks and shifting sand bars was a remarkable achievement. The captains, pilots and engineers were indeed "swift water" steamboat men.

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Leaving Whitehorse by small craft or later by White Pass and Yukon paddle-wheel steamers, the gold seekers started the last 460-mile leg to Dawson and the Klondike.

Many points on the river run from Whitehorse to Dawson are recorded in the history of the Gold Rush. Some 25 miles below Whitehorse, the river widened into Lake LaBarge, made famous by Robert Service as the scene of his poem, "The Cremation of Sam McGee". It was here, so the story went, that a stamperder cremated his frozen partner in an old abandoned ship's boiler of the derelict *Alice May* on the shore of the lake. After building a roaring fire, he stuffed in his partner's body and, in due time, after working up sufficient courage, he opened the door. He was greeted by his smiling friend who requested him to close the door as it was the first time he had been warm since leaving Tennessee.

*"There are strange things done in the midnight sun
By the men who toil for gold;
The Arctic trails have their secret tales
That would make your blood run cold;
The Northern Lights have seen queer sights,
But the queerest they ever did see
Was that night on the marge of Lake LaBarge
I cremated Sam McGee."*

FROM "SONGS OF A SOURDOUGH"

ROBERT W. SERVICE

(By permission of the publishers.)

It was at Lake LaBarge in later years, with river traffic unduly delayed in the spring by thick ice in the lake, that the ingenuity of White Pass officials was shown by their painting a strip down part of the lake with lamp black. This resulted in the sun's warm rays cutting the ice sufficiently to enable boats to move through a corridor of rotten needle ice, flanked on both sides by solid ice.

Below Lake LaBarge was a narrow swift water section with numerous bends known as Thirty-mile River, which also took its toll of many small boats and scows in the hands of inexperienced landmen in the rush to the Klondike. At the foot of the Thirty-mile River at the junction with the Teslin River, stood the settlement of Hootalingua. Here the gold seekers who followed the all-Canadian Route up the Stikine River to Telegraph Creek, across to Teslin Lake and down the Teslin River, joined the main Rush from Skagway.

Below Hootalingua, the Big Salmon River entered the Yukon River and some 35 miles further down the Little Salmon added to its flow. Little Salmon in the early days was one of the largest Indian settlements in the Yukon with a trading post and church. It was later practically wiped out in the 'flu epidemic of 1917.

On down river was Carmacks which was named after one of the discoverers of the Klondike. Here the overland winter trail from Whitehorse met the



Steamer in Five Finger Rapids.

river. Just above the settlement on the river bank was a coal mine which produced a good grade of bituminous coal for many years.

Nearing the halfway mark to Dawson just below Carmacks, the river was split by four islands or huge boulders of conglomerate into "Five Fingers" where the water rushed and boiled. Only one was navigable for steamers and required daring and skill by experienced river pilots.

Below "Five Fingers" was another stretch of fast water at Rink Rapids, then Yukon Crossing where the overland trail crossed the river, and on down to Minto, the scene of one of the early Yukon's few murders. It was here that a murder was committed for Klondike gold. The murderer paid the supreme penalty, following hard, painstaking work by the North West Mounted Police.

Further down river, the Pelly River joined the Yukon and here was established Fort Selkirk in the early 1840's by the Hudson's Bay Company. During the Gold Rush it boasted five large stores and three hotels and was an important trading centre. Below Fort Selkirk many tributary rivers and streams entered the Yukon; the White River on the left, then the Stewart on the right which later became a much travelled waterway to the Mayo and Keno mining

districts. On past the trading post of Ogilvie, opposite the mouth of Sixty-mile River, and finally with a grand sweep of the Yukon, there was Dawson and the Klondike.

With the day and night arrival of thousands of gold-seeking humanity, Dawson quickly mushroomed into a bustling city of 25,000 people. The waterfront from the mouth of the Klondike to Dawson became a hodge-podge of miscellaneous craft, cabins, tents and all sorts of temporary living quarters, some of which were built from the scows which had run the river from Whitehorse. The city proper was quickly laid out and many substantial business premises were built. Telegraph contact with the outside world was established in 1899 with the extension of the government system from Ashcroft, B. C., via Telegraph Creek, Atlin, Whitehorse and along the river to Dawson. The streets were packed with people day and night, and saloons, dance halls and gambling places ran wide open 24 hours a day. Miners from the creeks had their pokes of gold and spent them freely on drink, gambling, and for the smiles of dance-hall girls. In those lush days, the Palace Grand Theatre and the Flora Dora Dance Hall were world famous as entertainment spots.

By the spring of 1899 all the creeks of any importance had been staked.



Mouth of the Klondike.

Fortunes were being made on Bonanza, Eldorado, Gold Bottom, Hunker, Last Chance, Dominion and many other creeks. There was considerable speculation in claims and many changed hands at prices ranging from a few dollars to fantastic amounts. On some claims, fine gold and nuggets lay on bedrock like a blanket, while others were barren. Lady Luck smiled on some gold seekers and broke the hearts of others. Typical of good fortune was the case of a Swede miner named Anderson who had earned some \$600 as a miner, and was out on the town for a good time. He met up with two prospectors who were trying to sell their claim, and who helped him celebrate. The next morning, after many drinks, Anderson found himself without his poke, but possessing a bill of sale for his erstwhile friends' claim on upper Eldorado. There was nothing he could do except go to work on his new claim. As the former owners passed him on their way to Dawson he started to deepen the shaft and quickly struck fabulous gold on bedrock. The claim was reported to have produced one and a quarter million dollars.

Lady Luck too smiled on many new "greenhorn" miners called "Cheechacos" who swarmed over the established creek claims asking where they could find gold. They were told by the old-timers, with tongue in cheek, to "try the hills". This the gold-seekers did, and discovered the White Channels which were fabulously rich. All hills were quickly covered by stampederes and Cheechaco, Gold, French, Adams, and other hills became a hive of mining activity.

But all who came did not find their pot of gold. In the winter of 1898-99 there were thousands of destitute men roaming the streets of Dawson. Dreams of quick fortunes were shattered for many who had to take the most menial jobs in order to exist, or to cater to the more successful who had struck it rich.

Gold continued to pour forth from the Klondike area diggings with a production in excess of 100 million dollars from the period of 1897 to 1904. Most of this production was recovered by hand methods, such as rockers and sluice boxes where gold-bearing gravels were shovelled in and washed. On the hill claims in particular, the water was used over and over.

As the ground was permanently frozen, new methods of mining had to be devised. The frozen gravels had to be thawed and hoisted to surface and washed. An ingenious steam point was later used to thaw the ground, and was much quicker than the older method of alternately building fires in the bottom of the shaft and mucking out the thawed gravels. Small steam boilers and hand winches dotted the gold fields as the miners worked through the long winters sinking shafts, drifting on their pay-streaks on bedrock, and hoisting their gravels to surface. In the spring, washing of the pay dirt commenced as soon as the snow and ice started to melt.

• • •

As transportation improved, thousands of tons of heavy equipment were brought in and the scale of mining increased. Many claims were acquired and



Dredge at work.

consolidated by corporations with the individual miner being gradually replaced by large companies with their hydraulic and dredging plants. Dams, ditches, and flumes were built to provide large amounts of water for hydraulicking. One such system extended for sixty miles. Huge dredges also were built and were powered by electricity from hydro-electric plants many miles away. Thawing operations preceded the mining as the dredges chewed their way up the creeks, leaving behind them mounds of gravel tailings. Almost all the creeks were dredged, some more than once, and dredging continues to this day, though on a reduced scale. While her production has decreased, the Klondike has poured forth since Discovery Day, in excess of two hundred million dollars of the precious yellow metal.

From the "Dome" back of Dawson, at an elevation of 4,220 feet, you can see today a wonderful panoramic view of the city and the Klondike with the piles of upturned gravels in the creeks stretching for miles. One cannot help being deeply impressed by the scope of the work, and the nostalgic romance, glamour, success and failure of those early stampeders over the Trail of '98 in their search for Klondike Gold.

New Fields to Conquer

As the more accessible ground was worked out and was taken over by the dredging companies, the hand miners drifted away from the Klondike and Dawson in search of new fields. The lure of another "Bonanza" was a driving force and the miners worked their way up the rivers and streams tributary to the Yukon, including the Stewart River, where gold had been found on the bars as early as 1883. In 1895, coarse gold was discovered in the streams tributary to the Stewart in the Mayo area. A number of small "gold rushes" took place as new discoveries were made and mining districts were established on the main streams of Duncan Creek, Highet Creek, Minto Creek and Johnson Creek.

In 1898, gold was first discovered on Duncan Creek about two miles downstream from the present town of Keno, by three Swedes, a father and two sons, named Gustaveson. It is claimed that they did not stake or record their claims but worked quietly for three seasons and took out gold to the value of over thirty thousand dollars. In 1901 a discovery was made nearby and the creek was quickly staked, covering the ground formerly worked by the Swedes, and by the following year the creek was staked from its headwaters to the Mayo River. A number of shafts were sunk, several in excess of 100 feet, but most failed to reach bedrock due to heavy water flows from layers of unfrozen gravels. Appreciable amounts of gold were recovered, largely from benches and smaller tributary creeks, but the lower main creek bottom has been practically untouched.

Mining operations on a similar scale were carried out on the other main creeks in the area, and though some of the creeks were rich in placer gold, the average remuneration was small. The absence of bonanza strikes as found in the Klondike, the scattered showings, and the high costs of transportation, offered little encouragement to the larger and more experienced companies to enter the area. Gold placer mining has therefore been desultory over the years, though during the past few seasons a very efficient, successful operation is being carried out on Haggart Creek.

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In the search for placer gold in the Mayo area in early days, little attention was given to lode deposits. Prospecting was difficult owing to a heavy mantle of drift so that little bedrock could be observed.

The first recorded lode discovery was made by H. W. McWhorter in 1906 and was a silver-lead vein outcropping in the canyon walls of Galena Creek. The original discovery was alongside the present highway bridge which crosses the canyon three miles south of Elsa. The original claim was allowed to lapse but was relocated about 1912 as the Silver King Claim. Jack Alverson and

Grant Hoffman, on a lay from McWhorter, commenced development work and proved the property to be important by shipping 59 tons of ore to the smelter at Trail, B. C., which returned 269 dollars per ton. This small shipment was the fore-runner of years of later production from this and other properties which has established the area as a major mining district, and the site of Canada's largest single producer of silver concentrates. During the winter of 1914-15 the property produced under Aitken and Munroe, who had acquired the ground, 1,180 tons which averaged 270 ounces of silver per ton.

Though the property was closed within a short period with the exhaustion of this high grade shoot, it supplied the impetus to prospect the area. In spite of the scarcity of good rock outcrops, both Galena Hill and Keno Hill were prospected and a number of good showings were discovered which led to production. Later, with production firmly established in the district, mining was again resumed at the Silver King and almost eight million ounces of silver were produced.

In 1919, Louie Bouvette discovered a high grade outcrop on the top of Keno Hill. He forwarded samples to the Yukon Gold Company at Dawson who sent in A. K. Schellinger as examining engineer. There followed a staking rush which covered the whole of Keno Hill in a very short time. Tempting Lady Luck, the prospectors staked, among other claims, the Keno, Roulette, Pinochle, Solo, and Whist and named the two prominent gulches on the north side of the hill Faro and Gambler. Recanting, perhaps, they named the gulches on the south slope, Faith, Hope and Charity.

The discovery claim and others were acquired by the Yukon Gold Company, who formed a subsidiary company, Keno Hill Limited. Mining commenced in late 1920 and during the winter of 1920-21 some 2,000 tons of sorted ore were hauled 40 miles to Mayo. Roads were very rough and hauling was limited to the winter season when sleighs were used. Most of the production came from what is called the No. 9 Vein, and was hand-sorted. Electric power was supplied over a five-mile transmission line from a 100-H.P. wood-burning steam plant located on Duncan Creek. The remains of this plant can still be seen from the Duncan Creek Road.

Operations were suspended at No. 9 in 1923, after producing some 9,000 tons of hand-sorted ore, averaging 200 ounces in silver per ton. Today, one can easily drive over a good road to the "Top of the Hill" where the old ruins of the Keno Hill Limited camp on a treeless windswept plateau, will surely impress the visitor with the accomplishments of those rugged pioneer miners.

As the news of the richness of the ore from the "Top of the Hill" reached F. W. Bradley in San Francisco, he sent Livingstone Wernecke into the district to investigate conditions and to acquire likely ground. The Keno Hill Limited had taken over the Sadie claim on the northwest slope of Keno Hill and desired to purchase the nearby Ladue claim on which a vein had been found. The owners, however, grouped a number of claims which they offered



Sacked ore, Mayo Landing.

to Keno Hill Limited for \$250,000.00. This offer was refused by Keno Hill Limited, but was taken up by Wernecke for Treadwell Yukon Company, who thus entered the field in 1921 and commenced a period of 21 years of development and production from several properties on Keno and Galena Hills.

Mining operations were started by Treadwell Yukon Company on the Ladue claim in 1921. Shipments of hand-cobbed ore were made in 1923 and in 1925 milling operations began. Shipping of the ore and concentrates to the smelter at Kellogg, Idaho, was in itself a project of considerable magnitude. All shipments were sacked and hauled to Mayo Landing where it was stacked up at the dock to await the White Pass and Yukon steamers and barges which freighted the ore and concentrates down the Stewart River to the Yukon. Here the main river steamers took over and pushed the barges upstream to Whitehorse. The sacked shipments were reloaded on to the railway and hauled to Skagway for marine haulage to Seattle, then again by rail to Kellogg. The property operated in a very efficient manner until 1927 when operations were suspended due to lower grade ore at the deep levels and the availability of higher grade ore in other nearby properties.

In turn, the company acquired the adjoining Sadie-Friendship mine and

the Lucky Queen Mine higher up the slope of Keno Hill. Underground workings of the Sadie-Friendship and Ladue mines were integrated and an aerial tramline was built from the Lucky Queen to the Ladue mill. Operations continued until 1932 when the known commercial ore was considered exhausted.

Meanwhile, the Silver King and Elsa Mines on Galena Hill had been optioned and had responded well to development. Later, the Calumet Mine was acquired, and the Company decided to move their plant and equipment from Keno Hill to the new mines on Galena Hill. The mill was moved to Elsa and the Lucky Queen-Ladue tramline was moved to handle the ore from Calumet.

The Elsa mill began operations early in 1936, treating the ores from the Silver King, Elsa and Calumet mines. Production continued until 1942 when the Treadwell-Yukon Company suspended all operations. At that time, most of the known ore bodies had been exhausted, labour was in short supply, metal prices were low, and operating and general world conditions, brought on by the war, were very unsettled.

The following is a summary of Treadwell Yukon's ore production from its six main properties:

<i>Mine</i>	<i>Tons</i>	<i>Ounces Silver</i>	<i>Pounds Lead</i>
Ladue (Keno Hill).....	124,547	6,702,269	15,331,581
Sadie-Friendship (Keno Hill).....	111,963	6,156,845	16,995,983
Lucky Queen (Keno Hill).....	122,980	11,889,706	20,488,468
Silver King (Galena Hill).....	125,156	7,738,273	18,909,140
Elsa (Galena Hill).....	69,335	7,099,904	6,933,500
Calumet	70,589	4,751,699	17,364,894
Totals	624,570	44,338,696	96,023,566

It was good ore indeed, ranging in grade from about 54 ounces silver per ton at the Sadie and Ladue to a high of 102.4 ounces at Elsa, with the Lucky Queen running a close second at 96.68 ounces per ton.

The company, in its 21-year life, produced metals with a gross value in excess of \$21,000,000.00 and returned a very handsome profit. The success of the project under very difficult conditions of location, transportation, and climate was in large measure due to the efforts and direction of the late Livingston Wernecke.

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Following the suspension of operations by the Treadwell Yukon Company in 1942, activity was reduced to only minor prospecting. The future of the district was at that time anything but bright. The known ore bodies were considered exhausted. Production had been from shallow depths and it was felt by many that the high values were due to secondary enrichment only and would not go to depth. With the post war revival in mining activity in Canada,

as a result of improved metal prices, the camp, in spite of its natural disadvantages of location and climate, was re-examined by several companies. In 1946, Conwest Exploration Company, headed by Mr. F. M. Connell, became interested in the area, and, together with Frobisher Limited, formed the Keno Hill Mining Company which acquired the entire assets of the Treadwell Yukon Company. Additional ground was acquired by purchase and staking and a vigorous program of development was begun. In 1947 it was found necessary to secure additional capital for continued development, and to finance production during the long period from September to June when the Stewart and Yukon rivers were closed to navigation. The Keno Hill Mining Company was therefore reorganized in January, 1948, and the name changed to United Keno Hill Mines Limited. The subsequent record of production and success of the company is a fitting tribute to the foresight, direction, and leadership of Messrs. Connell and Anderson who continue to direct the company today as president and vice-president.

Mining operations were commenced on the Hector claim which, owing to legal dispute, had not been operated by the Treadwell Yukon Company. Ore was milled in the 125-150 tons per day capacity company concentrator situated at Elsa with the ore being moved by aerial tram. Milling began on April 1, 1947, and for the year ending December 31, 1947, the total production of concentrates and hand-sorted ore amounted to 735,195 ounces of silver and 2,157,090 pounds of lead.

In addition to the operations at the Hector Mine, development was carried on at the Elsa and Silver King Mines and the No Cash Mine was de-iced. Coal lands at Carmacks were acquired by the company and the Yukon Coal Company was incorporated and operated, the mine supplying coal to the Galena Hill operations.

Operations increased in 1948 with development at the Calumet, Elsa, No Cash, Bermingham and Silver King Mines, in addition to production mining at the Hector Mine. Surface exploration was carried out, particularly on the No 6 vein near the top of Keno Hill. Additional camp buildings were built, including steam plants at both Elsa and Calumet, using coal from the Carmacks coal deposits. A survey of the hydro potential was started on the Mayo River and work was commenced on an all-weather road from Minto on the Yukon River to Mayo. Activity continued to increase into 1949, but came to an abrupt halt on June 11 when the mill, crushing plant and assay office at Elsa were totally destroyed by fire. All mining and development was suspended and all effort was directed to reconstruction. A new mill of 250 tons per day capacity was built and milling operations were resumed on October 24th. The speedy return to production in the face of lack of supplies in the district which necessitated the bringing in of large tonnages of equipment and materials from the outside, was a noteworthy achievement. It reflected the drive and the ability of the company to recover quickly from the severe setback under most difficult conditions.



Stewart River crossing.

The successful development of the Hector Mine stimulated mining exploration throughout the area, particularly on Keno Hill. Several mining companies entered the area, and from 1949 to 1953 carried out extensive exploration on a number of showings, but generally failed to prove them to be of economic value. Some ore was mined and shipped by lessees, particularly from Mount Keno Mine.

On Sourdough Hill, Bellekeno Mines Limited developed two main ore shoots and production was commenced in late 1952. Milling was done in the 150-ton-per-day mill located on Crystal Lake, which served as a custom mill to the associated companies in the immediate area. Operations were suspended in August, 1954, as the ore bodies were exhausted.

Mackeno Mines Limited was incorporated in January, 1951, to develop a group of claims on Galena Hill adjacent on the north to the United Keno Hill Calumet property. Development has been steady since that time with milling being carried out as sufficient ore was developed. In January, 1957, the company was reorganized and its name changed to Galkeno Mines Limited. A major program of deep level development is now under way by shaft sinking

and low level adit. The character and grade of the ore is very similar to that of United Keno Hill Mines. Ore reserves as of March 31, 1957, total 66,853 tons grading 41.9 ounces of silver, 8.0 percent lead, and 8.0 percent zinc. Production since October 1st, 1954 (previous production record not available), has totalled to June 1st, 1957, 2,051,890 ounces of silver, 8,549,540 pounds of lead, and 8,921,260 pounds of zinc.

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Following the rebuilding of the mill at Elsa, development of United Keno Hill Mines holdings to 1953 included work at the Elsa, No Cash, Bermingham, Onek and Flame and Moth Mines, in addition to development and production from Hector and Calumet Mines. At the No Cash Mine, good ore was developed over a length of some 600 feet averaging about 100 ounces in silver over a width of three feet. Development to depth of this showing is planned in the longer range program of the company. The Onek Mine responded well to development but proved to be low in silver and high in zinc. Work here was suspended awaiting more favourable metal prices with reserves of 123,491 tons grading 10.27 ounces of silver per ton, 4.4 percent lead and 13.0 percent zinc after shipping 25,265 tons to the Elsa Mill. The Flame and Moth had shown a considerable tonnage potential but was low in silver. Ore was outlined



Concentrates leaving Elsa.

by drifting for a length of 105 feet grading 15.57 ounces of silver per ton, 1.7 percent lead and 6.9 percent zinc over an average width of 37.1 feet.

During this period a larger ball mill was installed, and a 350-ton-per-day cyanide plant was built to handle oxidized ore and the tailings from the original operation at Elsa.

Camp buildings and dwellings were erected to accommodate larger crews. The road was completed to Whitehorse in 1950 and in 1952 the 3,000 H.P. hydro development was completed on the Mayo River by the Northwest Territories Power Commission. With the completion of the road, the Transport Division was set up in Whitehorse and was quickly expanded to a modern, large, and efficient transport operation.

Since 1953, production has been steady with gross metal sales varying from \$8,368,775 in 1953 to \$9,750,219 in 1956. The average daily mill tonnage varied from 493 to 425 tons per day. Almost all of the production was from the Hector and Calumet Mines with a small tonnage in 1956 from the Elsa Mine which has again returned to economic production.

Development in the past two years was also done on the Shamrock and Keno Mines on Keno Hill. The Shamrock development outlined an ore shoot 119 feet long grading 71.4 ounces of silver and 22 percent lead over a width of three feet, but to date has not been established over a vertical range. Current development at the Keno Mine is to crosscut the "top of the hill" complex and to provide access to the No. 9 workings of the former Keno Hill Mining Company. This is part of a systematic development program which is designed to check for possible ore left by previous operators as being too low in grade at metal prices of that time. It will also prospect for new veins and check the possible extensions of the previously mined lodes.

Ore reserves have been maintained at a fairly constant level, and as of September 30, 1956, excluding the Onek Mine, totalled 598,200 tons grading 36.9 ounces of silver per ton, 7.8 percent lead and 7.0 percent zinc.

Production from the company's mines since its incorporation in 1946 to September, 1956, is summarized as follows:

<i>Mine</i>	<i>Tons Milled</i>	<i>Concentrate & Crude Ore Contents</i>		
	<i>Tons Crude Ore</i>	<i>Ozs. Silver</i>	<i>Lbs. Lead</i>	<i>Lbs. Zinc</i>
Hector	830,566	32,198,001	142,951,551	102,843,260
Calumet	129,548	3,935,033	15,321,102	12,787,908
Elsa	7,862	586,943	1,267,322	86,727
No Cash	13,222	564,791	1,115,129	347,577
Jock	402	8,786	21,556	16,579
Birmingham	5,166	242,271	791,096	118,722
Onek	25,258	258,240	1,909,042	3,818,737
Total	1,012,024	37,794,065	163,376,798	120,019,510

In addition, 187,703 ozs. Ag were recovered by cyanidation of reclaimed tailings and 1,607,206 lbs. of Cadmium were recovered in the zinc concentrates.

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United Keno Hill Mines Limited has in the past decade made a creditable contribution to the mineral production of Canada. Today it is Canada's largest single producer of silver concentrates. With fair metal prices, modern mining techniques and steadily improving transportation, the future of the company and the district is assured.

To September 30, 1956, silver-lead production, excluding lessees, from properties in the Galena Hill-Keno Hill area has reached the very handsome total of approximately 84,372,354 ounces of silver and 267,949,904 pounds of lead. This record has firmly established the Mayo area as an important silver mining district in Canadian mining.

Opening Up the North

The gradual improvement in transportation has played a major part in the opening up and development of the Yukon. Today, modern highways and airlines connect the main centres of population, and in contrast to the old days, allow for speedy and efficient transport. Fleets of trucks operate daily over the roads except during the "freeze-up" and "break-up" periods. They carry supplies to the mines and smaller centres and on their return journey bring out concentrates for the world markets. Traffic continues during the winter, in spite of periods of cold, with the river crossings being made over ice bridges. Travel by car from Whitehorse to Dawson or Mayo is an easy day's journey. Bridges and additional roads, however, are the paramount need for all-weather traffic and to open up the Territory for development.

With the increase in volume of shipments to and from the Yukon, and with the prospect of further increases, the White Pass and Yukon Route fully modernized their freight transportation methods. After considerable research a 4,000 ton cargo carrying vessel, the *M.V. Clifford J. Rogers*, was built to operate between Vancouver and Skagway. This vessel carries 168 steel containers in the hold along with space for 2,500 tons of palletized or unitized cargo. The containers, with a capacity of about 400 cubic feet, are moved by fork lift trucks and handle shipments from shipper to consignee. They have largely eliminated breakage and pilferage, excessive handling charges, and have provided adequate protection for perishable goods against extreme temperatures. The railroad also was modernized with new rolling stock and was fully dieselized.

The building of the Alaska Highway in 1942-43 as a war measure provided a much needed overland transportation route connecting the "outside" with the Yukon and Alaska. It commenced at Dawson Creek in British Columbia, which is served by the provincial highway systems of British Columbia



Clifford J. Rogers loading concentrates at Skagway.

and Alberta, and by the Northern Alberta Railway from Edmonton. The terminus is Fairbanks, Alaska, a distance of just over 1,500 miles. This highway is an important artery in the economy of the Yukon.

Fast modern transportation to and from the "outside" and within the territory is supplied by world renowned airlines and local charter services. Canadian Pacific Airlines operate daily except Sunday from Whitehorse to Vancouver and Edmonton. Pan American Airlines connect Whitehorse with Fairbanks and Seattle. Dawson, Mayo and Watson Lake are served by regular scheduled flights from Whitehorse by Canadian Pacific Airlines. Charter aircraft, including helicopters, are also available for "bush flying". The aeroplane has indeed played an important part, and will continue to play a dominating role, in the expanding development of the "North".

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And what of the future?

Mining has always been the backbone of industry in the Yukon, and bids fair to exceed its past performance in the foreseeable future. Lode mining in

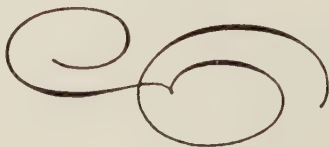
the Mayo District has proven values to depth and a sustained production is envisaged for many years to come. Its producing mines, however, are but pin-points on the vast mineralized areas of the Yukon. Recently, very promising showings, some of considerable size, have been found on the Pelly River, the McMillan Pass and near the Ketz River and Watson Lake. Development awaits only improved transportation and steady metal prices. In the Dawson area, active development is now under way on two very large asbestos showings on Cassiar Creek and on Clinton Creek. Both of these showings appear headed for production. Mining people today are looking to our Northland as a land of tremendous promise and an assured expanding future.

Far to the north and west an exciting gamble is taking place in drilling for oil on the Peel Plateau. Seismic work in 1954-55 established a very large structure and the success of the operation will soon be known. Conwest Exploration Company and Western Minerals Limited teamed up on this venture and moved a complete drilling rig, with the necessary fuel and supplies, by "cat" train, over frozen rivers and rugged terrain. The distance of haul was about 300 miles, often with temperatures down to 60 below zero. If an oil field is developed it will mean consideration of a pipeline to the Alaska coast. It is the feeling of many oil people that possibilities for oil and gas in the Yukon are good. A gusher in the Peel Plateau would further assure an expanded future.

In the past few years, surveys have been carried out on the upper Yukon River as a source of hydro electric power. Engineering investigation of the Ventures Group of Companies including Ventures Limited, Frobisher Limited, and Quebec Metallurgical Industries Limited, has shown an ultimate 4,900,000 h.p. can be developed. The harnessing of these waters would bring formidable changes. The Yukon with abundant power would become industrialized and new cities would be built on the coast.

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Predictions can be foolhardy, but we Canadians instinctively feel that in the North there is a tremendous future in our unexploited resources of minerals, power and oil. In our hearts we feel that we have this distant frontier northland to develop. Over this land of the Yukon is fixed the star of the Commonwealth—our destiny is inevitable—our future is sure.



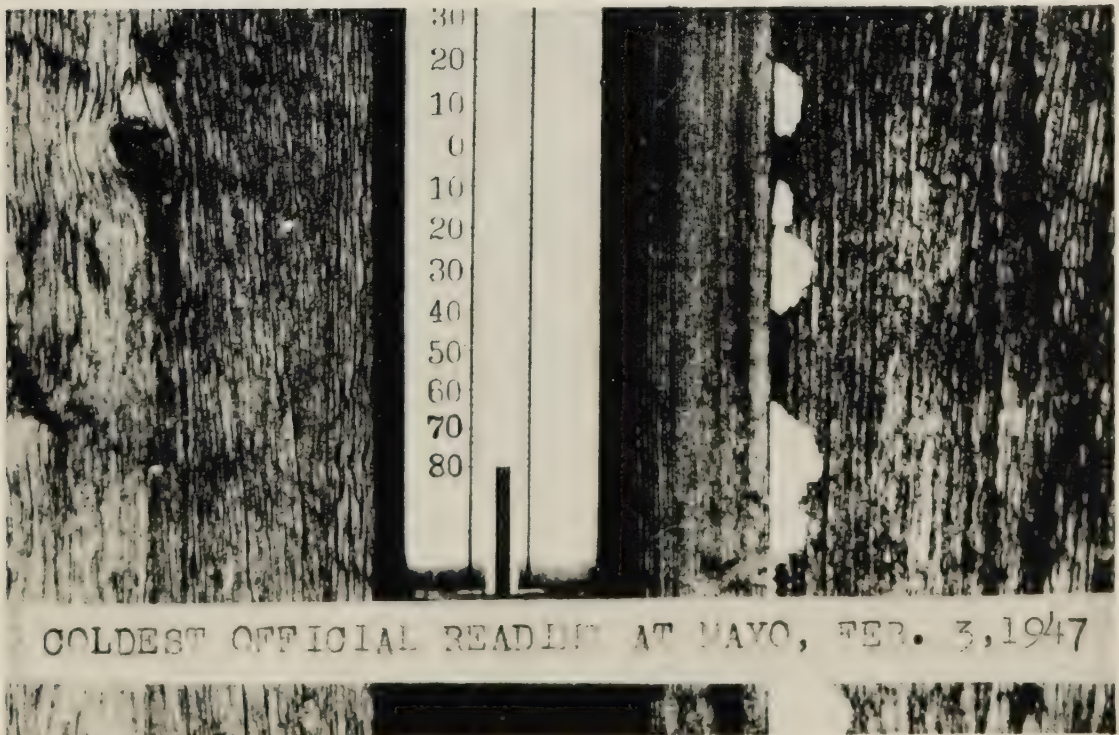
Some Interesting Facts About The Yukon

The Yukon Territory has an area of 207,076 square miles.

The present population is estimated at 12,190.

Mount Logan, in the St. Elias range in southwest Yukon, is the highest mountain peak in Canada, having an elevation of 19,850 ft.

The climate is of moderate extremes. Temperatures have reached 95 above in summer, and in the winter of 1947 slid to an official 81.4 degrees below zero at Snag. Mayo ran a close second at 80 below zero. The winters are long and cold but dry and comparatively free of winds. Snow seldom exceeds 2½ feet on the level. Days are long in summer, there being almost total daylight in late June, but shorten to only some four hours in December.



"No comment."



Atop Keno Hill

ACKNOWLEDGEMENTS

- | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1. Frontpiece | - | - | - | - | - | - | - | Courtesy: H. Zollweg |
| 2. Northern Lights | - | - | - | - | - | - | - | Courtesy: R. Zaccarelli |
| 3. Chilkoot Pass | - | - | - | - | - | - | - | Courtesy: R. Zaccarelli |
| 4. Miles Canyon | - | - | - | - | - | - | - | Courtesy: R. Zaccarelli |
| 5. Steel Bridge near White Pass | - | - | - | - | - | - | - | Courtesy: R. Zaccarelli |
| 6. Tunnel Mountain | - | - | - | - | - | - | - | Courtesy: White Pass & Yukon Route |
| 7. Steamer in Five Finger Rapids | - | - | - | - | - | - | - | Courtesy: White Pass & Yukon Route |
| 8. Mouth of the Klondike | - | - | - | - | - | - | - | Courtesy: R. Zaccarelli |
| 9. Dredge at Work | - | - | - | - | - | - | - | Courtesy: R. Zaccarelli |
| 10. Sacked Ore Mayo Landing | - | - | - | - | - | - | - | Courtesy: McBride Museum,
Whitehorse |
| 11. Stewart River Crossing | - | - | - | - | - | - | - | Courtesy: International Harvester Co. |
| 12. Concentrates leaving Elsa | - | - | - | - | - | - | - | Courtesy: International Harvester Co. |
| 13. Clifford J. Rogers loading
concentrates at Skagway | - | - | - | - | - | - | - | Courtesy: Eric Wienecke, Hougén's
Limited, Whitehorse. |
| 14. Coldest official reading at Mayo | - | - | - | - | - | - | - | Courtesy: McBride Museum,
Whitehorse |

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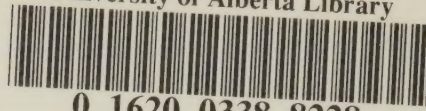
Souvenir Pam: (*430) PIKE
Brochure
of the Yukon.

by A. E. Pike

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